

REMARKS/ARGUMENTS

Claims 4-5 have been amended. Claims 18-27 have been canceled. New claims 34-37 have been added. Claims 1-17 and 28-37 remain in this application.

1. § 103 Rejections

The Patent Office has rejected claims 1-3, 13-15, 17 and 28-33 under 35 U.S.C. § 103(a) as being unpatentable over Xun (US Patent No. 6,287,510) in view of Lundsager (US Patent No. 4,900,698).

Regarding claims 1-11, 13-15, 17 and 28-30, the Patent Office asserts that Xun discloses a method for forming cellular monolith bodies such as honeycombs comprising: forming a mixture of powder materials, binder, solvent for the binder, non-solvent then mixing and plasticizing, and shaping to form a green structure.

Ludsager discloses oil is removed by heating in a forced air oven at 100 degree C and removal by heating and removal by extraction give essentially the same results.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Xun (US Patent No. 6,287,510) (“Xun”) and Ludsager (US Patent No. 4,900,698) (“Lundsager”) as applied to claims 1 above, further in view of Weich Jr. (US Patent No. 4,717,340) (“Weich”). The Patent Office asserts that Weich discloses recirculation of heated gas after condensation step in the Abstract, and concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to recirculate the gas to increase process efficiency.

In view of the claims as amended, the rejections are traversed.

Applicants respectfully submit that none of the cited references teaches or suggests flowing a heated gas longitudinally through a green ceramic article. Applicants submit that the “forced air oven” of Lundsager is not equivalent to flowing a heated gas longitudinally through a green ceramic article. Applicants submit that, without proper structure and/or conditions, little to no flow would enter the longitudinal cells of a honeycomb article, even in a forced air oven. Applicants note that “forced air” refers to air circulation within the oven, not necessarily within the article. For example, if a

honeycomb article is mounted vertically on a solid support such that the longitudinal cells are arranged vertically, the top end of the cells may be open, but the bottom end would be closed because the bottom end of the cells is blocked by the support, thereby inhibiting the flow of gas through the cells. Indeed, Lundsager neither shows nor describes any structure or conditions that even suggests that gas is flowed through its cells, and such flow would not necessarily occur by virtue of simply being disposed within a forced air oven. Lundsager further does not enable the skilled artisan to arrive at the claimed invention, and the other cited references do not make up the deficiencies of Lundsager. In contrast, the present application describes, for example, support device 32, heater 18, and fan or pump 20, shown in Figs. 3 and 4.

Claim 4 has been amended to specify that the heated gas is flowed at a rate of 0.2 to 8 standard cubic feet per minute (scfm) per 90 cubic inches of the green ceramic article, and Claim 5 has been amended to specify that the heated gas is flowed at a rate of 4 to 8 standard cubic feet per minute (scfm) per 90 cubic inches of the green ceramic article. See Specification page 8, paragraph 0035. Applicants further respectfully submit that none of the cited references teaches or suggests flowing a heated gas at a rate of 0.2 to 8, nor at 4 to 8, standard cubic feet per minute (scfm) per 90 cubic inches of the green ceramic article. In particular, Lundsager does not teach or suggest any flow rates of gas through its article.

Claim 31 has been amended to recite that removing at least 70% of the oil-based component from the green ceramic article is by flowing a heated gas longitudinally through the green ceramic article for less than or equal to about 1 hour, and Claim 34 recites less than 15 minutes. See Specification page 10, paragraph 0040. Applicants submit that even if, *arguendo*, some gas flow were to enter the article of Lundsager while the forced air oven (which Applicants submit Lundsager provides no teaching or suggestion whatsoever that is the case), Lundsager teaches heating its article in a forced air oven for 16 hours. Applicants submit that none of the cited references teach or suggest flowing a heated gas longitudinally through the green ceramic article for less than or equal to about 1 hour.

Claim 35 has been added which recites that the article is heated, then cooled to about 100 °C, then fired. See Specification page 2, paragraph 0008, page 8, paragraph 0035, page 10 paragraphs 0040 and 0041. Applicants submit that none of the cited references teach or suggest this cooling step.

Claim 37 has been added which recites that the green honeycomb article is positioned on a support device such that its longitudinal cells are arranged vertically, and a heated gas is forced vertically through the longitudinal cells of the green ceramic article. See Specification page 7, paragraph 0032, page 8 paragraph 0034, page 10 paragraph 0041, page 11, paragraph 0043, Fig. 1 (esp. reference numeral 34). Applicants submit that none of the cited references teach or suggest positioning a honeycomb article on a support device such that its longitudinal cells are arranged vertically, and forcing a heated gas vertically through the longitudinal cells of the green ceramic article.

Applicants submit the dependent claims are allowable for at least the above reasons.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections.

Based upon the above amendments, remarks, and papers of records, applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.


Applicant believes that no extension of time is necessary to make this Reply timely. Should applicant be in error, applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Appl. No.: 10/688,168
Reply to Office Action of: March 8, 2007

Please direct any questions or comments to Joseph M. Homa at 607-974-9061.

Respectfully submitted,

DATE: JUNE 8, 2007



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